



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,183	10/29/2005	Moti Margalit	LCX-020	4637

7590 08/11/2006

Lambda Crossing  
Landon StarkIP  
1700 Diagonal Road  
Alexandria, VA 22314-2866

EXAMINER

ROJAS, OMAR R

ART UNIT PAPER NUMBER

2874

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/531,183

Applicant(s)

MARGALIT ET AL.

Examiner

Omar Rojas

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,15-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 2-14 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on April 11, 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1105</u> .  | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> .      |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The prior art documents submitted by Applicant(s) in the Information Disclosure Statement(s) ("IDS") filed on November 16, 2005 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

### *Specification*

3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Objections*

4. Claim 17 is objected to because of the following informalities: Claim 17 recites the limitation "*said selected light portions.*" There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 15, and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Patent No. 4,852,117 to Po.**

Art Unit: 2874

*In re* claims 1 and 16, Po discloses a wavelength selective filter device 12 comprising:

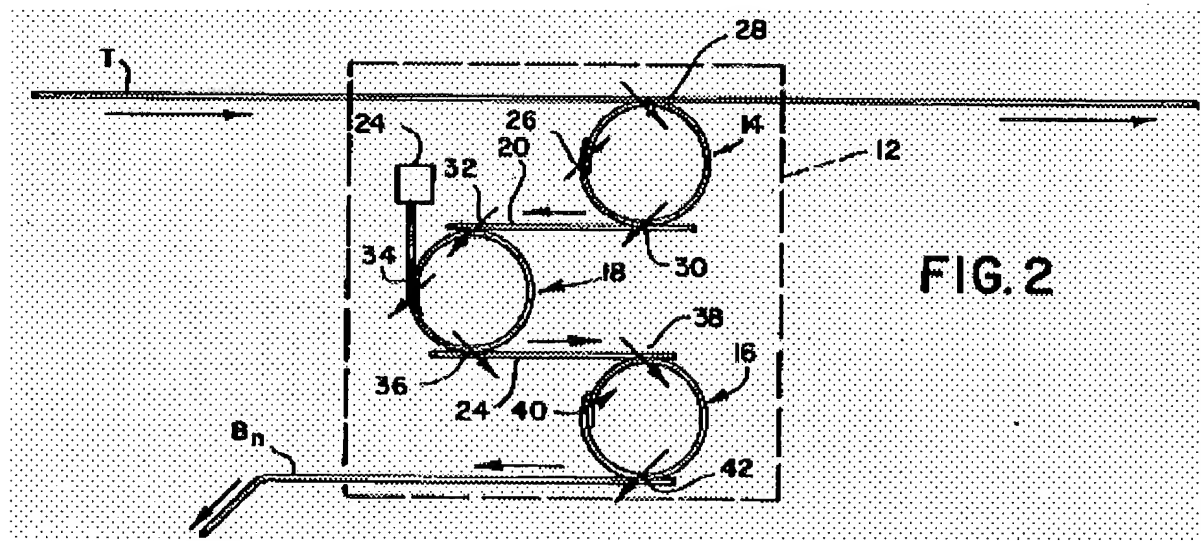
a light reflector structure comprising at least first and second closed-loop resonators 14, 16; and

an optical coupler structure 18 coupling light from an input/output 34 of a laser structure 24 to propagate through said light reflector structure,

said light reflector structure being operative to reflect light filtered by said at least first and second closed-loop resonators to propagate to said input/output 34 of the laser structure;

said closed-loop resonators 14 and 16 may have the same lengths (col. 8, lines 36-46) thereby defining two optical paths of substantially the same lengths for light propagation in said at least first and second close loop resonators 14 and 16 from and to the coupler structure 18.

Figure 2 of Po is reproduced below.



*In re* claim 15, the light reflector structure further comprises:

an additional waveguide 20/24;

and a reflective surface defined by the interior of waveguide 20/24,

Art Unit: 2874

said first closed-loop resonator 14 optically coupled to an input/output waveguide connected to said input/output 34 of the laser structure,

said first closed loop resonator 14 being optically coupled to said additional waveguide 20/24,

said second closed loop resonator 16 being optical coupled to said additional waveguide 20/24, said reflective surface being accommodated in a path of light propagating through said additional waveguide 20/24.

**7. Claims 1, 16-18, and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US 6,289,151 B1 to Kazarinov et al. ("Kazarinov).**

*In re* claims 1 and 16, Kazarinov discloses a wavelength selective filter device 175 comprising:

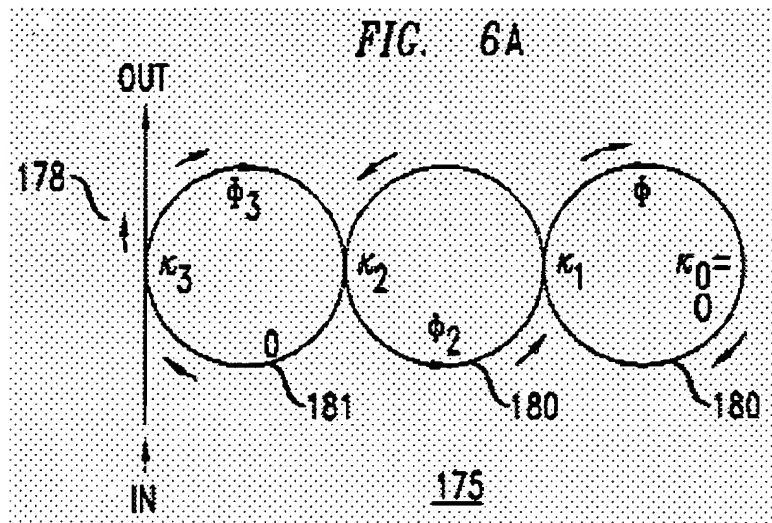
a light reflector structure comprising at least first and second closed-loop resonators 180; and

an optical coupler structure 181 coupling light from an input/output 178 of a laser structure 2 (see also column 5, lines 27-32) to propagate through said light reflector structure,

said light reflector structure being operative to reflect light filtered by said at least first and second closed-loop resonators to propagate to said input/output 178 of the laser structure;

said light reflector structure defining two optical paths of substantially the same lengths for light propagation in said at least first and second close loop resonators 180 from and to the coupler structure 181.

Figure 6A of Kazarinov is reproduced below.



*In re* claim 17, Kazarinov also discloses a method comprising:

(i) coupling the light output of a gain section 178 to a wavelength selective filter structure comprising at least two closed-loop resonators 180, so as to select from said light output light of a predetermined wavelength band corresponding to the resonance condition of said filter structure (col. 6, lines 36-67); and

(ii) directing said selected light portions to pass through said filter structure in opposite directions along two optical paths of substantially the same lengths so as to return back into said gain section 178.

*In re* claim 18, said coupling is carried out by providing a coupling region between an input/output waveguide 181 associated with input/output of the gain section 178 and said filter structure.

*In re* claim 20, said directing comprises passing a light portion of the gain section 178 output coupled to said filter structure towards a reflective surface defined by the interior of the

Art Unit: 2874

input/output waveguide 181 to thereby cause the coupled light propagation back again through the filter structure towards said coupling region.

***Allowable Subject Matter***

8. Claims 2-14 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2-14, the primary reason for allowance of the claims is the inclusion of the first and second waveguides, the coupling region, and the optical coupler structure operating in the manner specified by claim 2.

Regarding claim 19, the primary reason for allowance of the claim is the inclusion of all the recited steps including splitting the light output into first and second portions; passing the first and second portions along two optical paths of the same length; and combining the first and second portions into an output light beam.

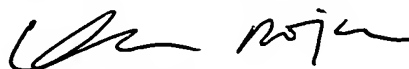
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (12:00PM-8:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Omar Rojas  
Patent Examiner  
Art Unit 2874

or  
August 7, 2006



Rodney Bovernick  
Supervisory Patent Examiner  
Technology Center 2800